

WHAT IS CLAIMED IS:

1. A solid-state imaging device, comprising:
a base made of an insulation material and having a frame form in
5 planar shape with an aperture formed at an inner region;
a plurality of wirings provided on one surface of the base and
extending toward an outer periphery of the base from a region along the
aperture; and
an imaging element mounted on the surface of the base with the
10 plurality of wirings provided thereon so that a light-receptive region of the
imaging element faces the aperture, wherein an end portion on the aperture
side of each of the plurality of wirings forms an internal terminal portion
and an end portion on the outer peripheral side of each of the plurality of
wirings forms an external terminal portion, the internal terminal portion of
15 the wiring being connected electrically with an electrode of the imaging
element,
wherein the plurality of wirings are made of thin metal plate leads,
the base is made up of a resin molded member in which the thin metal plate
leads are embedded, and at least a part of a side edge face of the thin metal
20 plate leads is embedded in the base.
2. The solid-state imaging device according to claim 1,
wherein the surface of the base with the plurality of wirings
provided thereon has a recess at a region along the aperture so as to be
25 recessed relative to a region outside the recess, and
on a face of the recess, the imaging element is mounted.
3. The solid-state imaging device according to claim 2, wherein a
surface of a portion of the thin metal plate leads residing between the
30 internal terminal portion and the external terminal portion is embedded in
the base.
4. The solid-state imaging device according to claim 1,
wherein a thickness of the base is substantially uniform, and
35 a solder ball is provided on the external terminal portion of each of
the plurality of wirings.

5. The solid-state imaging device according to claim 1, wherein at least one of the internal terminal portion and the external terminal portion of the thin metal plate leads protrudes from a surface of the base.
- 5 6. The solid-state imaging device according to claim 1,
wherein the base comprises a plurality of positioning reference holes
that are formed in a thickness direction of the base, and
the imaging element is arranged so as to have a predetermined
planar positional relationship with respect to the plurality of positioning
10 reference holes.
7. The solid-state imaging device according to claim 6, wherein the
plurality of positioning reference holes are arranged respectively at
asymmetrical positions in the planar shape of the base.
- 15 8. The solid-state imaging device according to claim 6, wherein
dimensions of the plurality of positioning reference holes are different from
one another.
- 20 9. The solid-state imaging device according to claim 6, wherein the
plurality of positioning reference holes penetrate through the base in the
thickness direction of the base, and a diameter of the plurality of positioning
reference holes on an imaging element mounting side is smaller than a
diameter of the same on a rear face side.
- 25 10. A method for producing a solid-state imaging device that comprises:
a base made of an insulation material and having a frame form in planar
shape with an aperture formed at an inner region; a plurality of wirings
provided on one surface of the base and extending toward an outer
30 periphery of the base from a region along the aperture; and an imaging
element mounted on the face of the base with the plurality of wirings
provided thereon so that a light-receptive region of the imaging element
faces the aperture, wherein an end portion on the aperture side of each of
the plurality of wirings forms an internal terminal portion and an end
35 portion on the outer peripheral side of each of the plurality of wirings forms
an external terminal portion, the internal terminal portion of the wiring
being connected electrically with an electrode of the imaging element, the

method comprising:

using a pair of molds for forming cavities for molding the base,
together with a lead frame having thin metal plate leads for forming the
plurality of wirings and a reinforcing plate portion having a shape
5 corresponding to a shape of the aperture of the base which is coupled to the
thin metal plate leads in a semi-disconnected state at a boundary portion
therebetween,

10 placing the lead frame between the pair of molds so that the thin
metal plate leads are positioned in the cavities formed with the pair of
molds and so that the reinforcing plate portion is positioned at a portion
where the aperture is to be formed;

pouring a sealing resin in the cavities, followed by curing the sealing
resin;

15 taking a resin molded member formed in a shape of the base, in
which the thin metal plate leads are embedded, out of the pair of molds;

separating the reinforcing plate portion from the thin metal plate
leads so as to obtain the base, and

mounting the imaging element on a face of the base with the
plurality of wirings provided thereon.

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11. The method for producing a solid-state imaging device according to
claim 10,

wherein a recess for forming the cavities is formed in one of the pair
of molds, and

25 a deflashing sheet is interposed between the other mold and the lead
frame when molding the base.